

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of etching a semiconductor substrate, the method comprising the steps of:

applying an etching paste comprising an etchant to a part or a layer of the substrate, wherein the semiconductor substrate is selected from the group consisting of a microcrystalline silicon substrate, a polycrystalline silicon substrate, an amorphous silicon substrate, a doped silicon substrate, a gallium arsenide substrate, a gallium arsenide phosphide substrate, a germanium substrate, and a silicon germanium substrate, and wherein the etchant is selected from the group consisting of potassium hydroxide, sodium hydroxide, ammonium hydroxide, combinations thereof, and derivatives thereof;
and

heating the substrate, such that the part or the layer of the substrate upon which the etching paste has been applied is etched.

2. (Original) The method according to claim 1, wherein the etching paste comprises a caustic etching paste.

3. (Original) The method according to claim 1, wherein the etching paste is basic.

4. (Original) The method according to claim 1, wherein the etching paste is alkaline.

5. (Original) The method according to claim 1, wherein the etching paste comprises a synthetic etching paste.

6. (Original) The method according to claim 1, wherein the etching paste comprises a natural etching paste.

7. (Canceled)

8. (Original) The method according to claim 1, wherein the etching paste is applied selectively to a major surface of the substrate to form a pattern of applied paste.

9. (Original) The method according to claim 1, wherein the etching paste is applied by a selective deposition method.

10. (Original) The method according to claim 9, wherein the selective deposition method comprises screen-printing.

11. (Original) The method according to claim 1, further comprising the step of:
doping a region of the substrate to yield a doped region of the substrate, wherein
the step of doping is conducted before the step of applying an etching paste, and wherein
the step of applying an etching paste comprises applying an etching paste to the doped
region of the substrate.
12. (Original) The method according to claim 11, wherein the substrate comprises
a part of a solar cell, and wherein the doped region comprises an emitter region of the solar cell.
13. (Original) The method according to claim 1, wherein the etching paste is
applied to at least one edge of the substrate.
14. (Original) The method according to claim 1, further comprising the steps of:
forming at least one metal contact on a base region of the substrate; and
forming at least one metal contact on an emitter region of the substrate.
15. (Original) The method according to claim 14, wherein the heating step yields
an insulating region, wherein the insulating region is situated between the emitter region and the
base region so as to isolate a metal contact from the emitter region.
- 16-24. (Canceled)
25. (New) The method according to claim 1, wherein the etchant comprises
potassium hydroxide.
26. (New) The method according to claim 1, wherein the etchant comprises sodium
hydroxide.
27. (New) The method according to claim 1, wherein the etchant comprises
ammonium hydroxide.
28. (New) The method according to claim 1, wherein the etching paste further
comprises a solvent.
29. (New) The method according to claim 28, wherein the solvent comprises water.
30. (New) The method according to claim 1, wherein the etching paste further
comprises a thickener.
31. (New) The method according to claim 30, wherein the thickener is selected from
the group consisting of a metal carboxyalkylcellulose salt, a hydrocolloid-forming cellulose, a
starch, a physically modified hydrocolloid-forming cellulose, a chemically modified hydrocolloid

Appl. No. : **10/609,015**
Filed : **June 27, 2003**

forming cellulose, a physically modified starch, a chemically modified starch, a strongly hydrolyzed polyacrylamide gel, combinations thereof, and derivatives thereof.

32. (New) The method according to claim 1, wherein the etching paste comprises:
a solvent; and

a thickener selected from the group consisting of a metal carboxyalkylcellulose salt, a hydrocolloid-forming cellulose, a starch, a physically modified hydrocolloid-forming cellulose, a chemically modified hydrocolloid forming cellulose, a physically modified starch, a chemically modified starch, a strongly hydrolyzed polyacrylamide gel, combinations thereof, and derivatives thereof.

33. (New) The method according to claim 1, wherein the etching paste comprises an etchant comprising potassium hydroxide, a thickener comprising sodium carboxymethylcellulose, and a solvent comprising water.